

Social and Economic Impact of Rural Women's Participation in Agricultural Projects: A Case Study of Kigumo Sub-County, Kenya

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Abstract

Enhancing women's participation in development is essential not only for achieving social justice but also for reducing poverty. Worldwide experience shows that supporting a stronger role for women contributes to economic growth, improves child survival and overall family health, and it reduces fertility, thus helping to slow population growth rates. In short, investing in women is central to sustainable development. This study sought to find out the social and economic impacts brought about by women participation in agricultural projects. The economic impact of women participation which was measured using income and assets acquired, income was analysed using t-test, mean and mode and it was found out that participation of women in agricultural projects does indeed increase their income. The social impact of women participation in agricultural projects was measured through access to healthcare, children education, nutrition, and shelter; they were analysed using chi-square and frequencies. The findings were that participation does improve social development or wellbeing of the women and their families. The research study targeted women in Kigumo Sub-County in Murang'a County. The research used a descriptive research design. Stratified sampling method was used to select women farmers who participate in agricultural projects in Kigumo Sub-County. The researcher used personal interviews and structured questionnaires as data collection tools. Data was analyzed through the use of descriptive frequencies, Mode, Mean, chi-square and t-test.

Keywords: Participation, Women, Agricultural Projects, Development

Introduction

Rural women's participation in the development process has been the focus of intensive debates by most international fora in the past years. Among fora that have recognized the plight of Third World's women's participation in the development process are the 1995 Nairobi Forward Looking Strategies for the Advancement of women held in Kenya, in 1995, The Beijing Declaration, and the United Nations Development Fund for Women (2000). According to the declaration of these fora, each member state should promote women's economic independence, which includes the creation of employment, access to resources and credit, the eradication of the persistent and increasing burden of poverty, malnutrition, poor health and illiteracy on women. Although such declarations have been able to increase an awareness and understanding of the problems facing women and their needs, as such they have not yet resulted in significant development priorities for rural women (UNIFEM, 2000).

Rural women are constrained by unequal access to productive resources and services. The limitations rural women face in turn impose huge social, economic, and environmental costs on society as a whole and rural development in particular including lags in agricultural productivity. According to the United States Agency for International Development (USAID), women are responsible for half of all of the world's food production. Women also continue to bear most of the responsibilities at home, from caring for children to providing meals, hence the need for development intervention focused on women. The development or improvement of a woman has a positive impact on the household and other dependants; this then leads to community development which has a positive ripple effect on the development of a country.

There are good reasons to focus on, and to emphasize rural women's participation in development. The most fundamental reason is that they play crucial roles in both subsistence and market food production in Africa. Not only are women the majority in rural areas in Africa, but they are responsible for more than 50% of all productive activities, even in those households where men are present (Burkey, 1993). Overlooking the plight of rural women will have negative impacts on the development of rural areas and that of the nation. To this end, there is a need to reverse this negative approach to development by retrieving and revising the potential for participation by rural women. (Kongolo & Bamgose, 2002).

LITERATURE REVIEW

The theory used in this study was the Women in Development Approach (WID). WID is a key theory in this study because it highlights the importance of bringing women to the fore of development and advocating for women only project that would enable women to participate in development. It further advocated for women training to break down stereotypes and customary expectations that disadvantaged them. WID also advocated for opportunity programs and anti discriminatory legislation that hinder the participation of women in various sectors of the economy, so as to ensure their prosperity. This is relevant to the research as one of its objectives is to find out if there are social and economic impacts of women participating in agricultural projects. WID also gave primacy to women productive roles and integration into the economy as a means of improving their status and also represented women as productive members of society. This was relevant to the study since it aimed to establish if integrating women into development such as having them participate in projects, improves their economic and social status. WID also advocated for women-only focus in research and in delivery of resources since it improves their status and wellbeing. This was

investigated in the study that is, to find out if participation in agricultural projects improved their social and economic wellbeing.

Participation of women in agricultural projects has been found to have positive impact on their incomes. Women who participate in projects earn more incomes and on regular basis compared to non-participants. Sabo (2006) found that rural women participation in Borno State Nigeria contributes to increased incomes compared to their fellow state mates who were non-participants. By women earning more they are able to create employment for other women in the rural areas hence enabling them uplift their living standards. In addition the increased income enables women to acquire assets such as farm machinery, build houses, land and buy cars. According to Aladeji (2011) increased income empower women since they become self reliant which in turn makes them to be self confident making them even able to participate in other village activities like, attending peoples weddings, dowry ceremonies and also vying for civil and political seats.

Although according to Carney (1992) and Sabo (2008) participation in agriculture projects causes strain in gender relations especially between husbands and their wives. This is especially so when women earn more than their husbands. Once the women start earning more from agriculture, men tend to take control of production and the income that proceeds from the sale of agricultural products, hence causing domestic or gender struggles in the family; especially since land is owned by men and the women only have usufruct rights.

Increasing income in the hands of poor women through agriculture is associated with improvement of women's health, their children's health and the health of other family members. According to the World Bank, in India, where female mortality exceeds male mortality, district statistics and household surveys indicate that where the local labour market activity and income of adult women are greater than that of adult men, the survival rate for girls relative to boys is more equal. Also in India, women's participation in a major public works program in the Maharashtra state considerably improved the nutrition of their children. In most African countries, household food security is primarily the responsibility of women. So, raising the productivity of women in agriculture, absolutely and relative to their potential, is bound to contribute to better family nutrition, especially for the women's children, in addition to increasing household incomes (World Bank, 2004).

Increase in women's income through participation in agricultural projects enables them educate their children and this has a long term effect to development. For instance, when they educate their girls then in the future this will have a positive impact on families. Studies show that female education lowers fertility and slows population growth. Educated women desire fewer children and are better able to achieve their desired family size; In addition, family planning programs reduce fertility more when combined with female education, especially in countries that have low female secondary enrolments. Moreover, since women's income generating activities compete with childbearing and childcare, increases in women's participation in the formal labour force are associated with smaller family size more than are increases in men's participation rates. In Brazil and Colombia where labour force participation rates and earnings for men and women have been converging fertility has been declining sharply (Jimnez and Lockheed, 1999).

Educated mothers worldwide are better able to prepare their children for school and, later, for participation in technical and industrial sectors. In developing countries Colombia, Ghana, and Thailand among others children of educated mothers perform better on preschool tests. An important study found that mothers' schooling was a significant determinant of children's

schooling in Indonesia and the Philippines. Mothers' schooling also has a strong influence on their daughters' educational and occupational aspirations. In Malaysia, among Malays, a mother's education had a strong positive influence on her daughters' (but not on her sons') schooling, whereas the father's education generally did not affect his children's schooling. In Morocco, the school participation rate of rural girls' increases by 55 percent when the household (male) head's education increases from none to primary level but by 135 percent when the (female) spouse's education changes from none to primary level (Khandler & Levy, 1993).

According to the World Bank women are overrepresented among the poor, programs aimed at enhancing women's economic participation and increasing their productivity such as agricultural projects are highly compatible with poverty reduction. In several African countries, women head more than one third of families, suggesting that there is potential for reducing poverty by expanding income earning opportunities for women. In some of the poorest countries, such as Bangladesh and India, encouraging the participation of women in projects, entrepreneurship and self-employment of women is proving to be a self directed and targeted poverty reduction strategy. There is also evidence that as women gain access to income, they shift their social position both inside and outside the family (Gill et al, 2000).

RESEARCH DESIGN

The study utilized a descriptive research design. Analysis was conducted by descriptive frequencies, frequencies distribution tables show how many times a score or response occurs and percentages given the proportions of a subgroup to the total group, which is useful in cases where there is a need to see the differences between, for instance, participant and non-participant responses. For the social impacts of participation which generated categorical data was analysed using chi-square. A chi-square statistic is used to investigate whether distributions of categorical variables differ from one another; it compares the tallies or counts of categorical responses between two (or more) independent groups, for example comparing education for participants and non-participants to find out if there is significant difference. The economic impacts which generated numerical data was analysed using t-test. The independent t-test, also called the two sample t-test or student's t-test, it is an inferential statistical test that determines whether there is a statistically significant difference between the means in two unrelated groups. For instance in the study, finding out whether there is significant difference between the farm income of participants and farm income of nonparticipants. The researcher used a 0.05 significance level that allowed the rejection or acceptance of the relationship between variables.

STUDY LOCATION

Kigumo Sub-County is in Maragua District, Murang'a County, within Central Kenya with the headquarters located at Kigumo Township. It is a high potential agricultural area on the eastern slopes of the Aberdare ranges with good soils and favourable rainfall. Agriculture dominates the economy of Kigumo Sub-County and provides livelihood to over 80% of the population and employs 75% of the population. Coffee is the main agricultural enterprise and the major source of income in the area. The Sub-County has three locations namely Kangari, Kigumo and Kinyona, location. The Sub-County covers a geographical area of approximately 285 km² (Murang'a South District development plan, 2008 - 2012).

FINDINGS

The Economic Impacts of Participation in Agricultural Projects

The first objective aimed to find out the economic impact of women participation in agricultural projects in Kigumo Sub-County. The researcher presents findings about income,

investments, improved assets financial independence as they relate to economic impacts of participation.

Income Impacts of Participation of Women in Agricultural Projects

Income Based Impacts of Participation

	N	Minimum	Maximum	Mean
Farm income before participation	100	6000	20000	11930
Farm income after participation	100	15000	100000	42930

The mean farm income of the respondents before participation was Ksh 11,930 while with the least farm income was Ksh 6000 and the highest earner earning Ksh 20,000. The farm income of the respondents increased after participation with the least earning Ksh 15,000 and the highest being Ksh 100,000. The mean farm income also went up to Ksh 42,930. The finding supports the findings of Sabo (2006) on women farmers and participation, which found that rural women participation in Borno State, Nigeria, contributes to increased incomes compared to their fellow state mates who were non-participants.

A Paired sample t test was carried out to compare the income before participation and income after participation for the participants.

T-test Results of Income before and after Participation

	Mean	Std. Deviation	T value	Df	p-value
Pair 1 Farm income before participation - Farm income after participation	-20666.667	21865.564	-11.576	149	.000

T (149) = -11.576, P value = 0.000 which shows that there is a significant difference between the income of participants before participation and their income after participation. Perhaps the participants earned more because of the improved productivity that comes with participation.

Increase in Assets

The respondents stated that participation had enabled them acquire better assets than they had before the project. All participants stated that they had been able to improve their household goods, bought new furniture and clothing; with the increased income.

Better Assets

Investment made with proceeds from the increased productivity	Frequency	Percent
Build a house	13	8.7
Bought land	13	8.7
Bought irrigation machine	13	8.7
Bought livestock	61	40.7
Total	100	66.8

All respondents who participate in agricultural projects had accumulated assets with the income that they had earned from increased productivity that was an outcome of participation. 8.7 Percent had build houses, that is, stone houses, 8.7 percent had bought land with their income, 8.7% had bought irrigation pumps which they use to improve their agriculture, 40.7% of them had bought livestock using their proceeds, according to them most of them bought livestock since it increases their income further through the sale of milk which is a lucrative business in the area, with one litre of milk selling at between 30 shillings to 40 shillings.

Acquisition of Property

Investment	Frequency	Percent
Build a house	13	13
Bought land	13	13
Bought irrigation machine	13	13
Bought livestock	61	61
Total	100	100

Participation of women in agricultural projects leads to increased productivity hence increased income. This has enabled the women invest the extra income in the following ways, 13% invested in a house although none of the houses were commercial houses, 13% have been able to buy land, most of this land owners had other professions with most of them being teachers, 13% had bought irrigation pumps, most of the pump owners plant vegetables that require a lot of water which was rear during the dry season hence acquiring the pump to aid their agriculture, 41% invested in livestock , which was mostly dairy cows which is one of the highest income earning agriculture in the area. The highest income earners, that is, Ksh 50,000-100,000 are women that had invested in livestock and were practicing zero-grazing.

Increased Financial Contributions

Financial contribution	Percentage
Enabled you earn independent income	100%
Enabled you supplement income	100%
Enabled you save for the future	100%
Helped to clear family debt	100%
Enabled you afford good healthcare for the family	100%

100% of respondents stated that participation in agricultural projects had enabled them earn independent income, off-farm income, save for the future, helped clear family debts and enabled them to afford good healthcare when a family member is unwell. All the above empowers women by giving them a chance to be decision makers since they bring in money to the household. This they deemed important since they have been able to transform their household by making sure their children go to school, providing good healthcare, shelter and clothing which are necessary for a comfortable life. Women have also been able to escape

poverty through their ability to save for the future and for investments that will be discussed below.

Impact of Participation of Women in Agricultural Projects on Their House Type

Type of house

	Type of house				Total
	stone house	Timber house	<i>Mabati</i>	Mud house	
Do you participate in any Yes agricultural projects	90	10	0	0	100
No	17	13	12	8	50
Total	107	22	12	8	150

90 participants had stone houses, some of them having build the houses with the farm proceeds, 9 of them had timber houses although all of them had plans of building stone houses and they were accumulating money to enable them do so. None of the participants had *mabati* (Iron sheet house) or mud house. 17 non-participants had stone houses most of them being successful farmers, professionals and people that had constructed their houses when coffee returns were high, 22 had timber houses, 12 *mabati* houses and 8 mud house. A Chi Square Test of Independence which tests the association between two sets of categorical variables was computed, to determine whether there was any association between the type of house and participation in agricultural project.

Chi square for Type of House

Variable	Pearson (χ^2) value	Chi-Square	Df	Asymp. Sig. (2-sided)
Type of house verses participation in an agricultural project	61.016 ^a		3	.000

There was a significant association between the two variables with ($\chi^2=61.016$, $df=3$, $p=0.000$), the P-value being less than 0.05.

Impact Participation of Women in Agricultural Projects on Family Health

Access to Health

	Treatment facility sought when sick			
	Private hospital	Public hospital	Both public and private	Total
Do you participate in any Yes agricultural projects	10	3	87	100
No	1	29	20	50
Total	11	32	107	150

10 participants use private hospitals whenever any of their family members are sick and the reason they gave was that they do not have to queue for long and that the treatment is of higher quality than that of public hospitals. 3 of them use public hospitals, 87 participants use

both private and public hospitals and the reason given was that some ailments are better treated in public hospitals than private hospitals hence they are referred there.

A Chi Square Test of Independence which tests the association between two sets of categorical variables, was computed, to determine whether there was any association between the treatment facility sought participation in agricultural project

Chi Square Test of Treatment Facility Sought Versus Participation

Variable	Pearson (χ^2) value	Chi-Square	Df	Asymp. Sig. (2-sided)
Treatment facility sought versus participation in agricultural projects	60.497 ^a		2	.000

There was a significant association between the two variables with ($\chi^2=64.497$, $df =2$, $p=0.000$), the P-value being less than 0.05. The reason it was significant is because the increased income the participants got enabled them to afford better treatment.

Impact on Children Education-School Fees

	Were your children sent home in 2013 for lack of school fees			
	N/A	Yes	No	Total
Do you participate in any agricultural projects	20	3	77	100
	17	16	17	50
TOTAL	37	19	94	150

The increase in income brought by participation of women in agricultural projects has had a positive impact on their children education. 77 respondents who participate in agricultural projects said that their children had not been send home due to lack of school fees, most of this women stated that this was not the case before since they could not afford to pay the full fees for every child; but through their participation they have been able to increase productivity, thus increase in income which has enabled them afford to pay school fees for their children, 3 of the participants children had been send home due to school fees, one of them stated that her husband was in charge of paying school fees and he had not fully paid the fees. The two respondents said that they had children in universities and they had prioritised their school fees. The 37 N/A respondents did not have children in school. 16 non-participants children had been send home for school fees while 17 non-participants' children had not been sent home due to lack of school fees.

A Chi Square Test of Independence which tests the association between two sets of categorical variables was computed, to determine whether there was any association between affording to pay their children school fees and participation.

Chi Square Test of Children Fees versus Participation

Variable	Pearson Square (χ^2) value	Chi- Df	Asymp. Sig. (2-sided)
Affording children school fees versus participation in agricultural projects	34.615 ^a	2	0.000

There was a significant association between the two variables with ($\chi^2=34.615$, $df =2$, $p=0.000$), the P-value being less than 0.05. The reason why participation was significant is because the increased income the participants got enabled them to afford school fees for their children.

Impact on Children Education

Impact on children education	Frequency
Enabled you buy textbooks for children	100
Enabled you educate all your children	100
Enabled you take your children to secondary school	90
Enabled you afford you children tertiary education	70
Total respondents	100

100 respondents who are participants in agricultural projects are able to buy text books for their children they are also able to educate all their children. 90 participants are able to take their children to secondary school while the rest that is 10 did not have children at secondary school level, 70 are able to afford tertiary education while 30 did not have children at this level. The 50 N/A respondents in each category are non-participants.

Impact of Participation of Women in Agricultural Office on Their Social Status

The following are the impacts on the participants' social status.

Impact of Participation of Women on their Social Status

Impact on social status	Frequency	Percent
Enabled you to have better social interaction	19	13
Enabled you to spend on social rituals and functions	64	43
Enabled you achieve a position or status in society	17	11
Total	100	100

13% of the respondents said that their social interaction had improved due to their increased income, this has enabled them to dress better and they have good homes where they can host guests. 43% said that their increase in income had also enabled them to spend on social rituals and functions something they were not able to do before for instance being able to pay dowry for their children, others have held parties for their circumcised sons; something which they considered a luxury before. 11% of the respondents said that participation had made them star farmers which had given them status in society with some even having attracted the media due to prowess in agriculture.

SUMMARY OF FINDINGS

This project aimed to investigate the social and economic Impacts of rural women participation in agricultural projects with a case study of Kigumo Sub-County.. The research objectives were To establish the economic impacts of participation of women in agricultural projects in Kigumo Sub-County and to evaluate the social impact of participation of women in agricultural projects in Kigumo Sub-County. A descriptive research design was followed in which of 150 women farmers were selected for response to a structured questionnaire using direct interview technique. 100 of the respondents were women farmers who participate in agricultural projects while 50 were women farmers who do not participate in any agricultural project. Data analysis was conducted by use of frequencies, and test of significance (t-test) and test of relationships (chi-square statistics) . Among other findings, results indicate that there in a positive social and economic impact of women participation in agricultural projects.

The study found out that participation of women in agricultural projects indeed had positive economic impacts. Participation had increased the incomes of women and this was shown by the comparison of the mean monthly income of the women before participation and the mean income of the women farmers after participation. All the incomes of the women had gone up and the major reason was due to increased productivity due to the training and input help they got from the projects. With the increase in income the women were able to acquire assets which they would otherwise not have been able to acquire. This assets or investments they had made had further increased their incomes, for example the women who invested in irrigation pumps had used them to increase their productivity of vegetable such as tomatoes which are both for consumption and sale, those that acquired dairy cows were making money out of milk sales which is the currently a booming business in the area. Increase in incomes had also enabled them afford to build better houses, improve their kitchens, buy household goods, furniture and clothing. Most women were proud of the fact that they could host many visitors and still have enough utensils; they no longer have to depend on their neighbours, which to them was important in terms of earning respect.

The study established that participation of women in agricultural projects in Kigumo Sub-County had a positive social impact. This is because all the women participants interviewed affirmed that they are better able to educate their children; most of them stated that their children are no longer being send home due to lack of school fees something which was frequent before. In addition they are able to afford text books, school uniform including shoes for their children. Those that had children at tertiary level expressed that they would not afford their children school fees was it not of their increased income and they were happy that their children would get a chance of being better than them in the future. All participants also stated that they are now able to take their children to hospital when sick without having to incur debts due to borrowing from friends and relatives. All the women stated that participation which had increased their income improved their social networks since they would now afford to attend neighbours, friends and relative functions and contribute be it weddings, funerals and other ceremonies. Most of them admitted that before participation when they had little income they avoided functions especially where money for travelling and other contributions was concerned since they would barely afford. They also experienced negative impacts such as lack of time due to their participation, most of them stated that

farming had become a full time job and when they were not in their farms, they were at a training session or a group meeting organised by the projects.

CONCLUSIONS

Results indicate that participation of women in agricultural projects has positive social and economic impacts on their wellbeing and the wellbeing of their families; and that there households had improved due to this, as discussed in the previous section. Therefore rural women should be encouraged and enabled to participate in agricultural projects so as to improve their lives and those of their families and this would improve the development of rural areas in the long run. In light of the above discussion, the following recommendations for policy, management and further research are made.

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